

SECOND RECORD OF *SERIOLA RIVOLIANA* (CARANGIDAE) IN THE MEDITERRANEAN

by

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RÉSUMÉ. - Seconde capture de *Seriola rivoliana* (Carangidae) en Méditerranée.

Les caractéristiques morphométriques et méristiques d'un mâle immature de sériole limon *Seriola rivoliana* Valenciennes, 1833, capturé dans les eaux de l'île de Lampedusa en juin 2003, sont décrites. C'est la deuxième capture de cette espèce en Méditerranée.

Key words. - Carangidae - *Seriola rivoliana* - MED - Second record.

In June 2000, the first specimen of Almaco jack *Seriola rivoliana* Valenciennes, 1833 was caught in the Mediterranean, off Lampedusa Island on the African continental shelf, presumably a stray coming from the Atlantic Ocean (Castriota *et al.*, 2002). In June 2003, a second specimen was caught in a shoal located 35 nautical miles west of Lampedusa Island (Fig. 1), at a depth of about 70 m, together with 234 specimens of *Seriola dumerili* (Risso, 1810), measuring 65 to 70 cm TL and weighing in average 4 kg. The animals were fished at day-time, using a purse seine, usually employed for fishing *S. dumerili* and *Euthynnus alletteratus* (Rafinesque-Schmaltz, 1810).

S. rivoliana is a circumtropical fish, entering temperate waters in some areas. It occurs in the Western Atlantic, Pacific Ocean and Indian Ocean (Fischer, 1978) and is absent from the Red Sea (Myers, 1991). In the Eastern Atlantic, this species is known from the Azores, Portugal and Madeira (Fischer *et al.*, 1981), being recorded from Northern Portugal as a new income from tropical

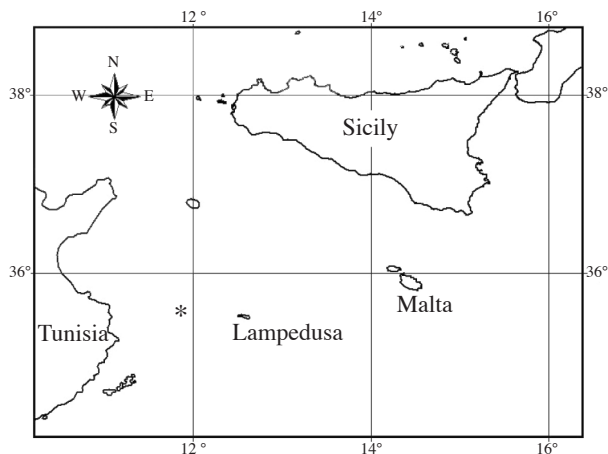


Figure 1. - Map showing the locality of the catch (*).

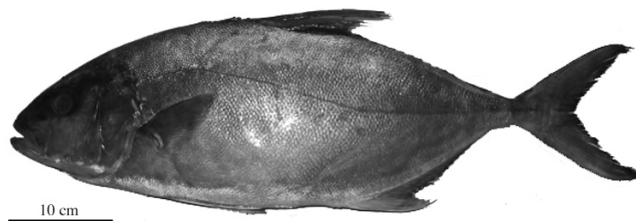


Figure 2. - *Seriola rivoliana* (ICRAM – Palermo - SRLC2 - 51.3 cm SL), Lampedusa Island, central Mediterranean Sea.

waters as result of ocean warming (Quéro, 1998). It was only once recorded on the British coast of South Devon and considered as a case of transoceanic migration from the Western Atlantic (Wheeler, 1986). *S. rivoliana* is usually found solitary or in small groups (Van Der Elst, 1993). Adults are pelagic and epibenthic, possibly more oceanic than other *Seriola* species, and rarely found in inshore waters. Juveniles are pelagic and occur offshore, under floating objects when small (Hureau, 1996). Almaco jack is a predator of small fishes (Myers, 1991). In the Azores, it mainly preys upon juvenile pelagic fishes (Barreiros *et al.*, 2003) whilst specimens from the Southern Atlantic Ocean also had benthic/demersal fish, cephalopods and crustaceans in their stomachs (Manooch and Haimovici, 1983). The maximum size thus far reported for this species is 110 cm LF (Myers, 1991), but it is common from about 55 cm LF to 80 cm LF (Fischer, 1978).

The second specimen found is deposited in the Ichthyological Collection of ICRAM laboratory of Palermo (identification code SRLC2, Fig. 2); its morphometric characteristics are listed below, indicating lengths in cm, followed by % of fork length (L_F) or head length (L_H) into brackets:

Total length = 64.0	Preanal = 27.5 (48.7% L_F)
Fork length = 56.5	1 st dorsal base = 5.2 (9.2% L_F)
Standard length = 51.3 (90.8% L_F)	2 nd dorsal base = 23.0 (40.7% L_F)
Body height = 17.5 (31% L_F)	Anal base = 15.8 (28.0% L_F)
Caudal-peduncle = 5.4 (9.6% L_F)	Pectoral fin = 7.9 (14.0% L_F)
Predorsal = 19.0 (33.6% L_F)	Pelvic fin = 9.2 (16.3% L_F)
Head length = 14.5 (25.7% L_F)	2 nd dorsal fin lobe = 12.8 (22.7% L_F)
Eye diameter = 2.1 (14.5% L_H)	Upper jaw = 5.5 (37.9% L_H)
Preorbital = 5.7 (39.3% L_H)	Upper jaw breadth = 2.7 (18.6% L_H)
Postorbital = 6.7 (46.2% L_H)	Total weight = 3.295 kg
Preopercular = 3.4 (23.4% L_H)	

Meristic data are the following: fin rays: 1st dorsal = VII; 2nd dorsal = I, 30; pectoral = 22; pelvic = 6; anal = II+I, 21; total gill rakers = 25.

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The specimen was sexed as an immature male. Its stomach contained two specimens of *Sardinella aurita* Valenciennes, 1847 (total weight = 80.6 g) and one juvenile *Trachurus trachurus* (Linnaeus, 1758) (2.1 g), confirming its piscivorous diet. *Sardinella aurita* and *Trachurus* spp. are frequent prey of adult *S. dumerili* caught in the same area (Andaloro and Pipitone, 1997), suggesting a potential diet interaction between the two *Seriola* species. The presence of *S. rivoliana* is a possible consequence of the recent climatic changes, particularly thermal increase, recorded in the Mediterranean (Bethoux *et al.*, 1990), as already observed for some immigrant fish with tropical affinities (Andaloro and Rinaldi, 1998).

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